DOCUMENT RESUME

ED 122 842 IR 003 463

AUTHOR Schmid, William T.
TITLE Cost Accounting: Production and Equipment Services.
PUB DATE Mar 76
NOTE 5p.; Paper presented at the Annual Meeting of the Association for Educational Communications and Technology (Anaheim, California, March 29-April 2, 1976)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Accounting; *Audiovisual Aids; Audiovisual Centers; Cost Effectiveness; Costs; Equipment; *Expenditures; Instructional Aids
IDENTIFIERS AECT 76; Cost Accounting; Depreciation

ABSTRACT

Cost accounting for audiovisual productions should include direct costs, and, in some cases, the media administrator may have to calculate a per-hour surcharge for general operating overhead as well. Such procedures enable the administrator to determine cost effectiveness, to control cost overruns, and to generate more staff efficiency. Cost accounting also involves depreciation of audiovisual equipment, and two methods for calculating depreciation are given. (CH)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED122842

COST ACCOUNTING: PRODUCTION AND EQUIPMENT SERVICES

Presentation for AECT Convention*
March 28 - April 2, 1976
Anaheim, California
by
William T. Schmid, Ph.D.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

This presentation describes one cost accounting procedure for any type of production and another for depreciation of audiovisual equipment. The procedures described will allow the media director to keep better data on direct and overhead cost centers, which leads to better management of current expenditures and more accurate planning for future budgets. Both procedures cover only basic concepts so that the media director can make the necessary adjustments for local application.

PRODUCTION COST ACCOUNTING

Define production requirements. Whether a proposed audiovisual production is simple or complex, it is imperative to determine as closely as possible the exact production requirements. Any number of behavioral objective models can be used to determine the target audience, instructional goals, and mediation required. This process need not be complicated for many of the simple production requests that come through a media center. With a clear idea of the production elements involved, the media director can determine more accurately possible cost centers.

Recording Production Costs. Any production usually has two basic cost centers: labor and materials. In this example a television production is used simply because television usually involves a variety of media and thus makes a good example for cost analysis. Under labor charges, basic areas such as planning, graphics production and actual studio time are figured. By using the average labor cost per hour, it is fairly easy to figure staff cost centers. For example, at $6 per hour, 30 hours of professional staff time were spent in planning the production, totaling $180. Graphics production required 24 professional hours at $6 per hour or $144. The actual studio time involved student help at $2 per hour for nine hours and professional staff at $6 per hour for six hours which totals $54. It is important to note that, in many respects, this represents the ideal production since most of the time is spent in the planning area when compared with the actual time in the studio. Remember that in the planning stage only professional staff time is involved, but in the studio a number of cost centers develop at the same time such as student help, professional hours, equipment operation, rented props, and talent. Therefore, if the planning is done well where the cost center is fairly low then the actual time in the studio can be kept down where the cost center is fairly high. A total of 69 hours was spent from the original planning through final production and this figure should be kept in mind later when developing overhead costs.

The next direct cost center involves materials and this is simply developed by multiplying the average cost for each unit of material by the number of units needed in the production. In this example, 50 slides were required at $.65 per slide or $33. Fifteen TV cards were produced at a cost of $.60 per card or $9. Other expenses involved one reel of video tape and some 16mm film, resulting in a total materials cost of $119. This amount added with $378 for labor gives a total direct cost of $497. In many cases, especially in education, this would be as far as the media

IR003463

director would have to go in determining the production costs. However, in some cases, especially in business and industry, overhead or fixed facilities costs must also be figured. Overhead costs are not as specific since they include general operating expenses such as equipment depreciation, administrative and secretarial support, office supplies, utilities and maintenance. Another way of looking at overhead is to group all those expenses required to maintain a media center's basic operation but which cannot be charged to any specific project. All of these cost centers are added to provide a total which is divided by the total number of operating hours in a year. In this case the average overhead cost per hour is $14. Using our example of the television production, 69 hours were spent in actual production which is multiplied by $14 to provide a total overhead cost of $966. By adding $966 and $497 we end up with a grand total of $1,463 for the production, if overhead must be written off as a part of the production costs.

Analyzing the cost effectiveness of this television production is done by simply dividing the total production cost by the number of students served. In most educational settings this amounts to taking the original labor and materials costs of $497 and dividing by the number of students served. If 1,200 students were going to be served by this production the cost per student would be $.41. If the overhead cost also has to be written off as part of production costs it would be a case of dividing the production cost of $1,463 by 1,200 students served or a cost per student of $1.22. It is important to remember that the cost effectiveness of any media production is relative, depending on instructional objectives and budget. Therefore, for one media director a cost per student of $.41 may be extremely good while for another the cost effectiveness must be more like $.5 per student served in order to be cost effective.

After using the cost summary for a while, cost figures will become more refined, allowing the media administrator to estimate accurately the cost of a project before any production expenditure. Thus, in the television program above, once production requirements are defined, the media administrator might estimate a production cost of $550 and, depending on potential students served, know immediately whether or not to proceed. A cost estimate forces everyone involved in a production to weigh very carefully his or her part as it relates to a cost center. If the project is undertaken, having to live within a cost estimate tends to make media production personnel more efficient because they can see the direct relationship between their time and the cost of the project. Also, through the project cost summary, the administrator can quickly see a possible cost overrun and take the necessary corrective action.

EQUIPMENT COST ACCOUNTING

There are several ways of writing off the cost of audiovisual equipment. One method is a 10 percent, ten-year write off. Each year 10 percent of the original cost of the equipment is written off over a ten-year period. The problem with this approach is that not all equipment lasts for ten years. Another method for getting at this problem acknowledges life expectancy for media equipment and is called, "average life expectancy depreciation schedule." The second method is the one which will be explained here.

The average life depreciation method for writing off audiovisual equipment is easy to use and fairly accurate. With this approach, the original cost of a unit is divided by the average number of years of use expected before major and/or recurring maintenance becomes a problem. Each year this figure is subtracted from the remaining

balance of the purchase price until the end of the average life when a zero balance is obtained.

A TV ensemble costing $2,025 is divided by an average life of eight years and depreciated each year by $253, while an overhead projector costing $190, with an average life of 11 years is depreciated annually by $17. These two equipment items were chosen because they differ greatly in cost and average life trends. Another way of showing the average life expectancy which some people are more comfortable with is, in the case of television, to list $253 each year for eight years so that this totals up to the original cost of the piece of equipment instead of reducing the original cost each year by $253 until the total is worked down to zero. Either approach, however, does get at the average life of the equipment which is the important consideration.

Average life for equipment can be determined through published material such as EPIE Report No. 53 published by the Educational Products Information Exchange in May, 1973, or by establishing in-house records on equipment used at a media center. Although the second method takes years to develop, it might be much more accurate since it reflects particular operational characteristics of a media center directly affecting equipment life such as an extensive repair department or high equipment abuse by users. Average life depreciation also has the added benefit of quickly indicating when maintenance might become a major cost consideration.

Cost Effectiveness. Cost effectiveness can also be determined through average life depreciation by asking for the approximate number of students to be served when a piece of equipment is requested. The number of students served by a piece of equipment during a year can be divided into the purchase price balance to obtain a cost per student. For example, the first year the overhead projector served 3,750 students which is divided into a purchase price of $190, providing a cost per student of $.05. Note that with both pieces of equipment, as the cost depreciates and students served goes up, the cost per student served goes down. Such figures can become very useful when determining, based on instructional objectives, whether or not a piece of audiovisual equipment will be cost effective. One final note on figuring cost effectiveness for media equipment is that in this example only one TV ensemble and one overhead projector were used. Obviously, for managerial expediency, some averages would have to be used in which all the TV ensembles are added together with an average cost and then divided by the number of students served since trying to keep accurate data on each individual piece of equipment would be very cumbersome unless a computer program was used.

SUMMARY

The cost of an audiovisual production must account for direct costs assigned to the project. In some cases, especially in business and industry, the media administrator might also have to figure a predetermined per hour surcharge for general operating overhead. Such a procedure enables the media center administrator to determine cost effectiveness, control cost overruns, and generate more staff efficiency.

An easy method for depreciating audiovisual equipment is to divide the purchase price by the average useful life and subtract this resulting figure annually from the purchase price balance. Cost effectiveness can be determined by dividing this

purchase price balance by the number of students the equipment served in a given year.

*Overhead transparencies were used to illustrate points in this presentation. Similar charts illustrating these points are available in "Cost Accounting Methods for Audiovisual Equipment and Production" by William T. Schmid, published by the Association for Educational Communications and Technology in Media Centers: Readings from Audiovisual Instruction-2, Washington, D.C., 1975.

The presentation was developed from the draft of a forthcoming book entitled Media Management: A Practical Guide by William T. Schmid.